



# UNITED STATES PATENT AND TRADEMARK OFFICE

A

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/088,387	07/16/2002	Simone Mazzoni	00MO03054271	5129
27975	7590	03/09/2006	EXAMINER	
ALLEN, DYER, DOPPELT, MILBRATH & GILCHRIST P.A. 1401 CITRUS CENTER 255 SOUTH ORANGE AVENUE P.O. BOX 3791 ORLANDO, FL 32802-3791			BOLOURCHI, NADER	
			ART UNIT	PAPER NUMBER
			2631	

DATE MAILED: 03/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/088,387	<b>Applicant(s)</b> MAZZONI ET AL.	
	<b>Examiner</b> Nader Bolourchi	<b>Art Unit</b> 2631	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 7/16/2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 4-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 4,5,13,20 and 21 is/are rejected.
- 7) ☒ Claim(s) 6-10,14-19 and 22-24 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### Remarks

1. Claims 4, 5, 13, 20 and 21 are rejected.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 4, 13, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Djokovic et al. (US 6,956,872) in view of Berlekamp et al. (US 4,559,625)

Regarding claim 4, Djokovic et al. disclose channel coding (Fig. 1: 100) and decoding (Fig. 2: 200) stage comprising an interleaver (Fig. 1: 114; 146), a deinterleaver (Fig. 2: 242), and memory (col. 2: lines 50-52) having a minimum size based upon a maximum bit rate of the group of predetermined bit (col 2; lines 22-24). They do not disclose a first memory space assigned to interleaver and second memory space assigned said deinterleaver, each being a function of the bit rate.

Art Unit: 2631

Berlekamp et al. disclose an interleaving system that requires only one RAM for the interleaver and one additional RAM for the deinterleaver (col. 8: lines 47-50; Fig. 5; col. 6: line 47 – col. 7: line 8) each being a function of the bit rate (col. 4: lines 47-49). Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to combine the teaching of Djokovic et al. and Berlekamp et al. for the purpose of minimizing the effect upon an error correction decoder of the phase or time-of-occurrence of the noise burst as suggested by Berlekamp et al. (col. 2: lines 25-28).

Regarding claim 5, Djokovic et al. disclose as stated in rejection of claim 4 above. Furthermore they disclose a Reed-Solomon coder (Fig. 1: 112) and Reed-Solomon decoder (Fig. 2: 244) connected to said interleaver and said deinterleaver and having a length N (col 2: lines 20-21).

Regarding claims 13 and 20, Djokovic et al. disclose as stated in rejection of claims 4 and 5 above. Furthermore they disclose a random access memory (col. 2: line 50-52) whose minimum size is fixed function of a maximum bit rate the group of predetermined bits (col. 2: lines 22-24).

Regarding claims 21, Djokovic et al. disclose as stated in rejection of claims 20, and furthermore as stated in rejection of claim 5 above.

### **Allowable Subject Matter**

3. Claims 6-10, 14-19, and 22-24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims

### **Conclusion**

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Voith et al. (US 5,751,741) disclose an ADSL transceiver along with an external interleave/deinterleave memory (Fig. 2; col. 3, lines 55-56); Tong (US 5,764,649) discloses a convolutional interleaving process, which enables the amount of memory required in the single RAM interleaver/single RAM deinterleaver to be reduced for different relationships between the interleaving depth and the number of symbols in a block of data. (Fig. 1; Fig. 9; col. 2: lines 44-46; col. 2: lines 27-28); Khoury (US 5,912,898) disclose programmable convolutional interleaving and de-interleaving system scalable for wide variety of values of I and M, using single port RAM or any other structure, which supports a read-modify-write operation (col. 3: lines 23-37).


5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nader Bolourchi whose telephone number is (571) 272-8064. The examiner can normally be reached on M-F 8:30 to 4:30.

Art Unit: 2631

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammed Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).

Nader Bolourchi  
Examiner  
Art Unit 2631



CHIEH M. FAN  
SUPERVISORY PATENT EXAMINER